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Chief, St/I/RR

8 June 1960

Ch/G/RR

GRA Requirements on a Machine Translation Capability

1. The potential requirements for translation of foreign documents in the event that a machine translation capability becomes available have been reviewed and are outlined here below. It is assumed that this capability will be applied only to languages for which there may be a large bulk requirement in the intelligence community. Languages for which little demand is anticipated have not been considered here.

a. Languages and estimated first-year page requirements

Albanian	1,000
Arabic	1,000
Bulgarian	2,600
Chinese	8,500
Czech	3,000
French	3,900
German	6,200
Hungarian	3,200
Japanese	1,000
Korean	1,000
Polish	6,900
Portuguese	2,900
Rumanian	2,600
Russian	27,400
Slovenian	3,000
Spanish	1,700
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	75,900 pages

The above list contains about 5,000 pages of backlog which will not recur in succeeding years. In addition a backlog of about 15,000 pages needing translation would be part of an initial requirement.

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b. Continuing requirements are estimated at about the same as those listed above. The exercise of greater selectivity by the requesters should tend to reduce the volume of future requests as greater familiarity with the available materials is developed. It must be borne in mind, however, that the mere availability of the machine capability may very well lead to requests for translation that are presently not put forth. This would tend to offset the assumed reduction and, it is felt, tend to stabilize the volume of requests at about the currently estimated level.

2. Requirements for translation in the following subjects, fields, or disciplines would be submitted:

Physical Geography

- a) Geology
- b) Physiography
- c) Pedology
- d) Climatology
- e) Hydrography
- f) Oceanography

Biography

- a) Plant and animal ecology

Economic Geography

- a) Natural resources
- b) Agricultural geography
- c) Water conservancy
- d) Forestry
- e) Fisheries
- f) Industrial geography
- g) Transportation geography

Human Geography

- a) Population geography
- b) Census results
- c) Ethnography

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Political Geography

- a) International boundaries
- b) Internal boundaries and administrative structure
- c) Geopolitics

Military Geography

- a) Relation of physical and cultural geographic factors to military operations

Geographic Methodology

- a) Aerial photography techniques
- b) Survey and mapping techniques, including photogrammetry
- c) Cartography
- d) Sampling techniques for research

Geodesy, Gravimetry,

Astronomy

Mapping Programs

Expeditions and explorations; regional description and travel accounts

3. An unlimited translation capability, by broadening the base of research resources available to us, should increase our ability to answer priority requests for geographic intelligence. It should also reduce the time presently required in the research phase of report preparation. In addition it would enable the GRA to give improved guidance and operation support to the DD/P in its map collection activities through exploitation of openly available literature published in the Sino-Soviet Bloc. The bulk of such material exceeds current translation capabilities. In many cases the information from Bloc scientific literature is the only material available for assessment of collection targets. In order that the maximum benefit may be gained from the proposed translation capability it is recommended that:

- a. Acceptable screening procedures be established to prevent analysts from being deluged with mass translations of materials of sub-marginal value;

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b. the resultant translation be readily usable by analysts with a minimum of editing and retranslating;

c. an indexing capability be incorporated in the machine;

d. provision be made for additional clerical and semi-professional personnel to receive, scan, collate and file the output in the consuming offices.

4. We feel that for best results the accumulated experience and expertise of the present corps of human translators should be tied directly to the machine program. Such a staff will also be required for handling maps, sketches, and photographs contained in the materials being translated.

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